

## ABSTRACT

Semiconductor devices and methods for forming semiconductor devices are disclosed. In a disclosed method, a gate of a semiconductor device is formed by separately forming a lower gate and an upper gate electrode on a semiconductor substrate. A lower gate polysilicon layer is first formed on the semiconductor substrate and selectively removed to form the lower gate electrode. LDD regions are formed on opposite sides of the lower gate electrode. A nitride film is formed and etched to form sidewalls of the lower gate electrode. Source and drain regions are formed by implanting impurity ions into the LDD regions on the opposite sides of the lower gate electrode. An upper gate polysilicon layer is formed. Then, the upper gate polysilicon layer is selectively removed to form an upper gate electrode. A silicide layer is then formed on the top and side surfaces of the upper gate electrode.